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Thekkath et al.

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(54) **SCALABLE DISTRIBUTED FILE SYSTEM**

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(52) **U.S. Cl.** **707/201**
(58) **Field of Search** 707/1-10, 100-104, 707/200-206

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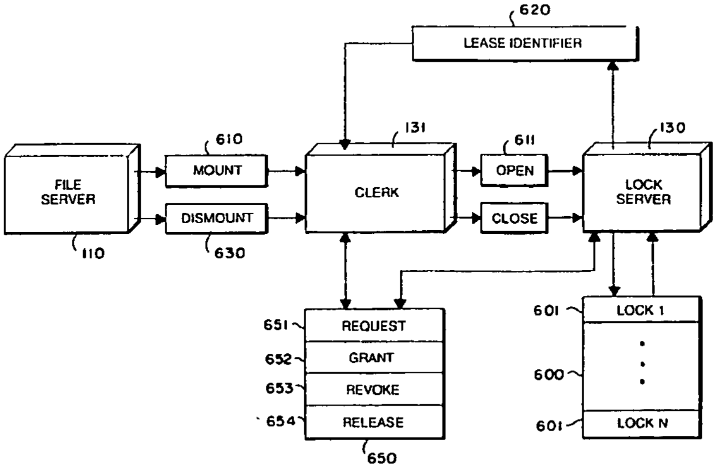
(57) **ABSTRACT**

A file system is distributed over a plurality of computers connected to each other by a network. The plurality of computers execute user programs, and the user programs access files stored on a plurality of physical disks connected to the plurality of computers. The file system includes a plurality of file servers executing on the plurality of computers as a single distributed file server layer. In addition, the file system includes a plurality of disk servers executing on the plurality of computers as a single distributed disk server layer, and a plurality of lock servers executing on the plurality of computers as a single distributed lock server to coordinate the operation of the distributed file and disk server layers so that the user programs can coherently access the files on the plurality of physical disks. The plurality of file servers executes independently on a different one of the plurality of computers, and the plurality of file servers communicate only with plurality of disk servers and the plurality of lock servers, and not with each other. Furthermore, the disk server layer organizes the plurality of physical disks as a single virtual disk having a single address space for the files.

20 Claims, 6 Drawing Sheets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